UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
http://www.epa.gov/region8

STATEMENT OF BASIS
FOR
UNDERGROUND INJECTION CONTROL
CLASS V PERMIT
PERMT NUMBER: CO50927-04914

Kwik Stop Convenience Store and Carwash
916 Highway 115
Penrose, Colorado 81240

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I. DESCRIPTION OF FACILITY AND BACKGROUND INFORMATION

On September 24, 2001, the Environmental Protection Agency Region 8 received an application for a Class V Underground Injection Control (UIC) permit submitted by Kwik Stop Food Stores owner, David McCallister. The original application proposed the injection of car wash fluids at an average volume of 7,500 gallons per day and a maximum of 12,600 gallons per day. A permit was drafted at the time, but not finalized. On January 12, 2011, EPA wrote the operator and requested that they update their permit application, complete a Shallow Waste Disposal System Inventory Request, and provide current analytical results for fluid samples collected from the carwash disposal system. Kwik Stop Director of Operations, Alan Drake, complied with the EPA's request on March 9, 2011. The facility was inspected by the EPA on September 3, 2010, and October 24, 2011. The inspection reports recommended that a permit be issued. A permit, if issued, would authorize the discharge of carwash waste fluids into a Class V shallow disposal system/injection well located at 916 Highway 115, Penrose, Colorado.

The Penrose Kwik Stop facility, as shown in Figure 1 of the Appendix, is approximately 35 miles southwest of Colorado Springs on Highway 115. The facility is comprised of a six-bay carwash station with a restroom and a recreational vehicle dump station associated with it, a

convenience store, an office and warehouse building, and two fueling stations, as shown in Figure 2 of the Appendix.

The carwash is equipped with two automatic wash bays and four manual wash bays and can accommodate large trucks. The carwash has a restroom for the station attendant and a recreational vehicle dump site. The convenience store has a restroom and a floor sink. The office and warehouse share a restroom. There are no systems within the property boundary that collect or discharge storm water or surface runoff.

The carwash currently generates an average volume of wash waste water of 300 gallons per day, and a maximum volume of 3,000 gallons per day. Because this system treats industrial waste from a business establishment, injects the effluent into the subsurface, which action has the potential to cause a violation of primary drinking water regulations under Title 40 of the Code of Federal Regulations Part 142, it will require a permit and be referred to as ***Kwik Stop System #1***.

According to a separate inventory request form submitted by Kwik Stop on March 9, 2011, the restroom and recreational vehicle dump station associated with the carwash generate an average volume of waste water of 10 gallons per day, and a maximum volume of 100 gallons per day. Both empty into a 750 gallon septic system that has its own drainfield. Because this system treats sanitary waste from a business establishment and injects the effluent into the subsurface, under Title 40 of the Code of Federal Regulations Part 144.24, it will be authorized by rule in a separate document and referred to as ***Kwik Stop System #2***.

Also, according to the EPA inventory request form submitted by Kwik Stop on August 19, 2011, the convenience store generates an average volume of waste water of 2,130 gallons per day. The waste water is comprised of dishwater, floor wash water and bathroom waste. These wastes are treated by a large capacity septic system installed in February 1998. The office and the warehouse generate bathroom waste that is treated by a small capacity septic system. Both septic systems drain to the same leach field. Because these systems together treat non-residential waste greater than 2,000 gallons and generated by more than 20 people per day, under Title 40 of the Code of Federal Regulations Part 144.24, they will be authorized by rule in a separate document and referred to as ***Kwik Stop System #3***.

This Statement of Basis addresses ***Kwik Stop System #1***. In this system, the carwash station, wash water from each of the six wash bays enters a floor drain in the bay and is channeled to and passes through four sand water/ oil separators. After filtering through the separators, the waste water flows to two 4,000-gallon capacity holding tanks designed to act as settling tanks for suspended solids. The waste water is dispersed into an 80-foot by 80-foot drain field on the east side of the facility. The drain field consists of heavy-wall, PVC, perforated piping lain on 6-foot centers through which the waste fluids are injected into the ground. Two observation wells allow the drain field to be monitored. The drain system and tanks are inspected two times per year. The tanks are pumped one time per year.

Construction of the carwash was completed in 2001. According to Nolte Engineering firm, 1975 Research Parkway, Colorado Springs, Colorado 80920, system designer and installer, construction and installation were in compliance with applicable OSHA rules and regulations,

and conformed to Colorado Department of Public Health and Environment regulations and Fremont County Environmental Health's individual sewage disposal system regulations. The layout of the disposal system is shown in Figure 3 of the Appendix. Components of the system are shown in Figure 4 of the Appendix.

Kwik Stop Food Stores director of operations, Alan Drake, understands that the Class V shallow disposal system, Kwik Stop System #1, needs to be permitted. He has submitted all the required information and data necessary for permit issuance in accordance with Title 40 of the Code of Federal Regulations, Parts 144, 146 and 147. A Draft Permit has been prepared. Public Notice of the Draft Permit will be published in the following publication:

Daily Record - Canon City, Colorado

Request for public comments will be accepted for 30 days from the date of publication.

Authorization to inject is issued for ten (10) years from the effective date of the Final Permit (40 CFR § 144.36) unless the permit is terminated (per Part III, Section B of the permit). In the event primary enforcement authority (primacy) for this program is delegated to the State of Colorado, this permit may be modified, reissued or terminated by the State. In the absence of such modification, reissuance, or termination, all requirements of this permit remain in full force and effect. Should this program be so delegated, the EPA UIC Director will notify the permittee of the name and address of the State UIC Program Director, and the date that primacy is effective. The permit may also be terminated for reasonable cause (40 CFR§144.39, 144.40 and 144.41).

This Statement of Basis gives the site-specific permit conditions and reasons for them. The general permit conditions, for which the content is mandatory and not subject to site-specific differences (based on 40 CFR § 144, 146 and 147), are not included in the discussion.

II. REASON FOR THE PERMIT

The UIC Program, created under the authority of the Safe Drinking Water Act (SDWA), is a preventive program tasked with protecting underground sources of drinking water (USDWs). Shallow disposal systems that discharge certain types of fluids into the subsurface are known as Class V wells. These disposal systems consist of subsurface fluid distribution systems defined as an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground (40 CFR § 144.3). Class V wells with waste streams containing constituents with Primary Drinking Water Standard or Health Advisories that have the potential to contaminate or degrade groundwater are required to operate under a permit. Permit requirements generally include monitoring the concentrations of contaminants of concern in waste fluids being released into the subsurface. The permit may also include Best Management Practices (BMP) designed to restrict or minimize the volume of contaminants released into the subsurface.

In order to demonstrate compliance with permit limits, analytical results of fluid samples must verify that all the analyzed constituent concentrations do not exceed the values established by

permit limits. The permit limits have been established using Primary Drinking Water Standards called MCLs for drinking water, Region 8 limits, or Health Advisories to prevent contamination of underground sources of drinking water. These constituents are included in Tables 1 and 2 of the permit.

Best Management Practices (BMPs)

Kwik Stop will use best management practices, as defined in Part II, Section D.5 of the permit, for the disposal of truck wash waste fluids into the Class V shallow disposal system. Waste fluids shall be collected and analyzed semi-annually at six-month intervals. If the analyses show that any constituent being analyzed does not meet drinking water standards as established by the EPA, Kwik Stop will be required to notify the EPA within 24 hours of the receipt of the analysis. To reduce possible contamination of the waste water, all accidental spills of fluids associated with truck repairs must be absorbed with an absorbent material and disposed of as a solid waste per the requirements of the Resource Conservation and Recovery Act (RCRA). To assure that only fluids are discharged into the leach field come from car and truck washing, any sediment that may accumulate in the floor drain sumps and settling tank will be periodically removed and properly disposed of off site. The permittee will continue to inspect the tanks twice per year and pump them once per year. These "**best management practices**" will significantly reduce the potential for contaminants migrating into the ground water.

III. SAMPLING AND REPORTING OF RESULTS

Shallow Injection Well Sampling Program

The permittee is required to collect fluid samples semi-annually from the waste stream before it is discharged into the leach field. The list of constituents to be analyzed is found in the Total Metals and Volatile Organic Compounds tables in the permit. The sampling techniques utilized must be adequate to provide a representative sample of waste water constituents and to allow the fluid sample to be analyzed using the EPA analytical methods approved for under the drinking water program or an analytical method proven to be equivalent. These constituents were selected for analysis based on their potential for endangering the USDW. The analyzing laboratory will provide a written report of all the results and laboratory documentation of quality control procedures. The first sample will be collected within 30 days of the effective date of the final permit.

Reporting of Results

The report of analytical results from first sample collected will be sent to the Director no later than one (1) week after the permittee has received the analytical results from the laboratory. Subsequent reports due no later than January 1 and July 1 of each year.

Water Quality of Waste Fluids

Kwik Stop collected two waste fluid samples from the Class V shallow disposal system that were analyzed for Total Metals and Volatile Organic Compounds (VOCs). The first sample was analyzed on August 14, 2001, by Stewart Environmental Consultants, Fort Collins, Colorado. The second sample was analyzed on February 16, 2011, by Environmental Alternatives, Inc. of Canon City, Colorado. The concentrations of detectible constituents from the 2011 analysis with permit limits are shown in Tables 1 and 2 below. These results met permit limits.

Table 1: Total Metals

Parameter Name	Standard Type*	Permit Limit (mg/L)	Measured Concentration 2/16/2011 (mg/L)
Antimony	MCL	.006	Not Detected
Arsenic	MCL	0.01	Not Detected
Barium	MCL	2.0	0.13
Beryllium	MCL	0.004	Not Detected
Boron	HA-Lifetime	1.4	0.11
Cadmium	MCL	0.005	Not Detected
Chromium(total)	MCL	0.1	Not Detected
Copper	MCL-TT	1.3	0.015
Iron	Region 8 Permit Limit	5.0	3.30
Lead	MCL-TT	0.015	0.012
Manganese	Region 8 Permit Limit	0.8	0.32
Mercury(inorganic)	MCL	0.002	0.0002
Molybdenum	HA-Lifetime	0.04	0.011
Nickel	HA-Lifetime	0.1	0.022
Selenium	MCL	0.05	Not Detected
Silver	HA-Lifetime	0.1	Not Detected
Strontium	HA-Lifetime	4.0	0.55
Thallium	MCL	0.002	Not Detected
Zinc	HA-Lifetime	2.0	0.18

Metals highlighted in above table are those required for analysis under this permit. Metals that are not highlighted are included in list for reference to permit limit and are not required for analysis.

Table 2: Volatile Organic Compounds

Parameter Name	CAS No	Permit Limit (mg/L)	Measured Concentration 2/16/2011 (mg/L)
1,1,1,2-Tetrachloroethane	630-20-6	0.07	Not Detected
1,1,1-Trichloroethane	71-55-6	0.2	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	0.0003	Not Detected
1,1,2-Trichloroethane	79-00-5	0.005	Not Detected
1,1-Dichloroethylene	75-35-4	0.007	Not Detected
1,2-(cis)Dichloroethylene	156-59-2	0.07	Not Detected
1,2-(trans)Dichloroethylene	156-60-5	0.1	Not Detected
1,2,3-Trichloropropane	96-18-4	0.04	Not Detected
1,2,4-Trichlorobenzene	120-82-1	0.07	Not Detected
1,2-Dibromomethane (Ethylene Dibromide [EDB])	106-93-4	0.00005	Not Detected
1,2-Dichlorobenzene o-	95-50-1	0.6	Not Detected
1,2-Dichloroethane	107-06-2	0.005	Not Detected
1,2-Dichloropropane	78-87-5	0.005	Not Detected
1,3-Dichlorobenzene m-	541-73-1	0.6	Not Detected
1,4-Dichlorobenzene p-	106-46-7	0.075	Not Detected
2-Butanone (methyl ethyl ketone)	78-93-3	4.0	
2-Chlorotoluene (o-)	95-49-8	0.1	Not Detected
4-Chlorotoluene (p-)	106-43-4	0.1	Not Detected
Acetone	67-64-1	7.0	
Acrylonitrile	107-13-1	0.006[1]	
Benzene	71-43-2	0.005	0.00024
Bromobenzene	108-86-1	4.0	Not Detected
Bromochloromethane	74-97-5	0.09	Not Detected
Bromodichloromethane (THM)	75-27-4	0.08	0.00064
Bromoform (THM)	75-25-2	0.08	Not Detected
Bromomethane	74-83-9	0.01	Not Detected
Carbon tetrachloride	56-23-5	0.005	Not Detected
Chlorobenzene (Monochlorobenzene)	108-90-7	0.1	Not Detected
Chlorodibromomethane (Dibromochloromethane)(THM)	124-48-1	0.08	Not Detected
Chloroform (THM)	67-66-3	0.08	0.0053
Chloromethane	74-87-3	0.03	Not Detected

[1] 10^{-4} cancer risk

Parameter Name	CAS No	Permit Limit (mg/L)	Measured Concentration 2/16/2011 (mg/L)
Dibromochloropropane (DBCP)	96-12-8	0.0002	
Dichlorodifluoromethane	75-71-8	1.0	Not Detected
Dichloromethane (Methylene chloride)	75-09-2	0.005	0.00049
Ethylbenzene	100-41-4	7.0	0.00067
Hexachlorobutadiene	87-68-3	0.01	Not Detected
Isopropylbenzene (cumene)	98-82-8	4.0	Not Detected
Naphthalene	91-20-3	0.1	0.0008
Perchloroethylene (PCE) (Tetrachloroethylene)	127-18-4	0.005	0.00033
Styrene	100-42-5	0.1	Not Detected
Toluene	108-88-3	1.0	0.0019
Total Trihalomethanes		0.08	0.00594
Trichloroethylene (TCE)	79-01-6	0.005	Not Detected
Trichlorofluoromethane	75-69-4	2.0	Not Detected
Vinyl chloride	75-01-4	0.002	Not Detected
Xylenes (total)	1330-20-7	10	

	= detection near permit limit
	= permit limited reached
	= permit limit exceeded

Total Trihalomethanes: chloroform, bromoform, bromodichloromethane, dibromochloromethane
Total Xylenes: o-Xylene, m-Xylene, p-Xylene

IV. AREA HYDROLOGY

Underground Sources of Drinking Water (USDW)

An Underground Source of Drinking Water is defined by UIC regulations as an aquifer, or a portion thereof, which contains less than 10,000 milligrams per liter total dissolved solids, and which is being used or could be used as a source of drinking water.

There are no water wells within the required ¼-mile Area of Review. Additionally, there are no surface bodies of water within the required ¼-mile Area of Review. The nearest non-intermittent water features are Brush Hollow Creek 1.25 miles to the west, the Brush Hollow Reservoir approximately 3 miles northwest, and the Arkansas River 2.0 miles to the south. The elevation at the facility slopes down gently (about 2%) towards the Arkansas River. These observations can be seen in Figure 5 of the Appendix.

APPENDIX

Figure 1: The Penrose Kwik Stop facility is approximately 35 miles southwest of Colorado Springs on Highway 115.

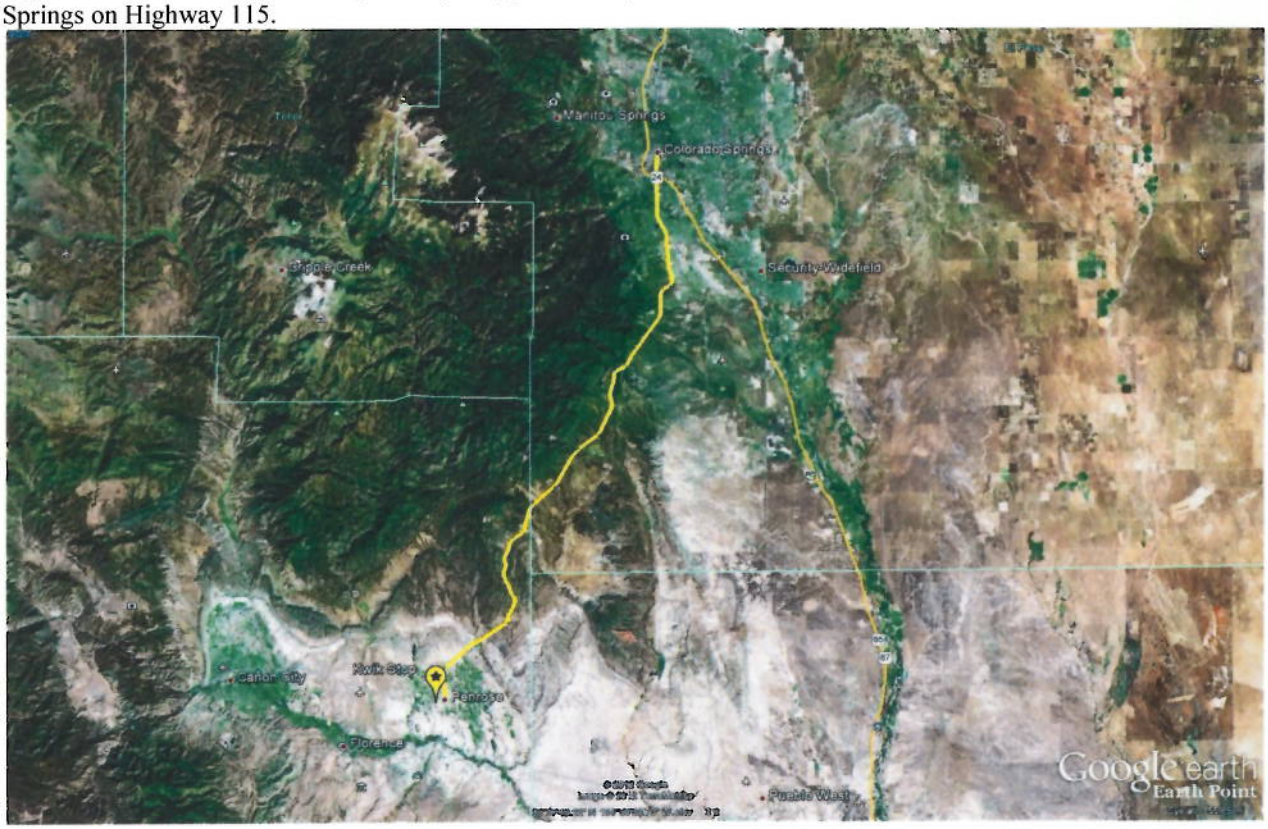

Figure 2: The facility is comprised of a six-bay carwash station, a convenience store, an office and warehouse building, and two fueling stations.

Figure 3: Layout of the disposal system.

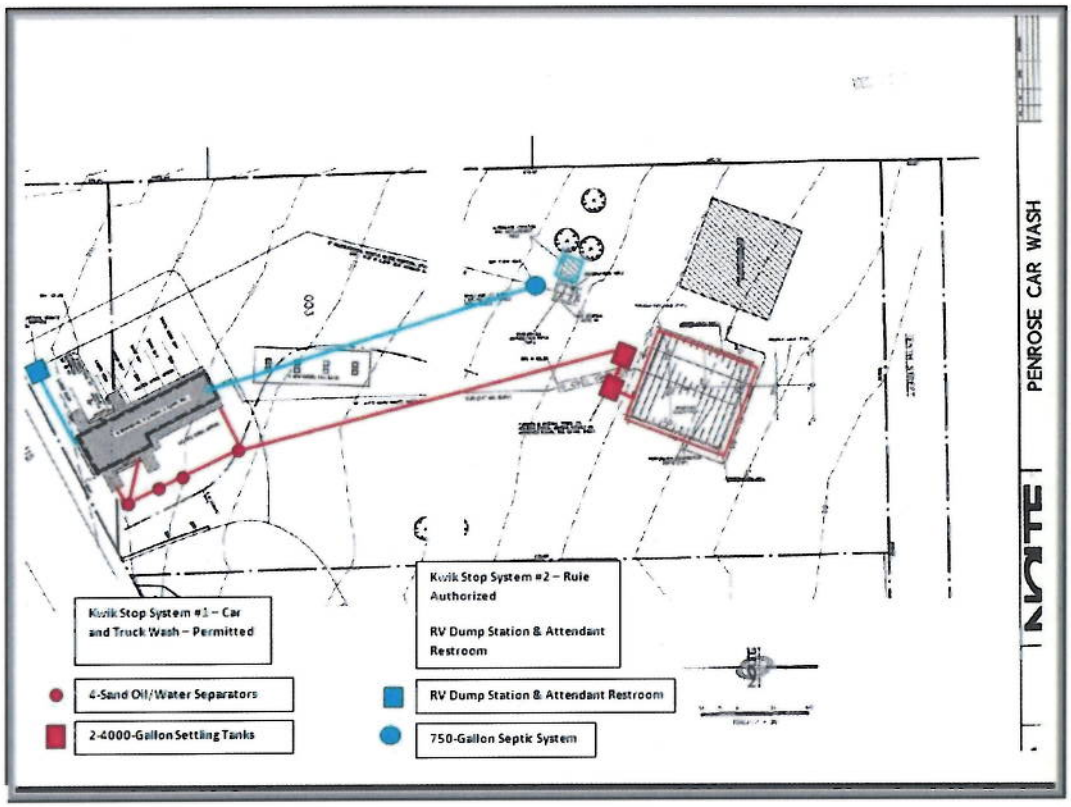

Figure 4: Components of the system.

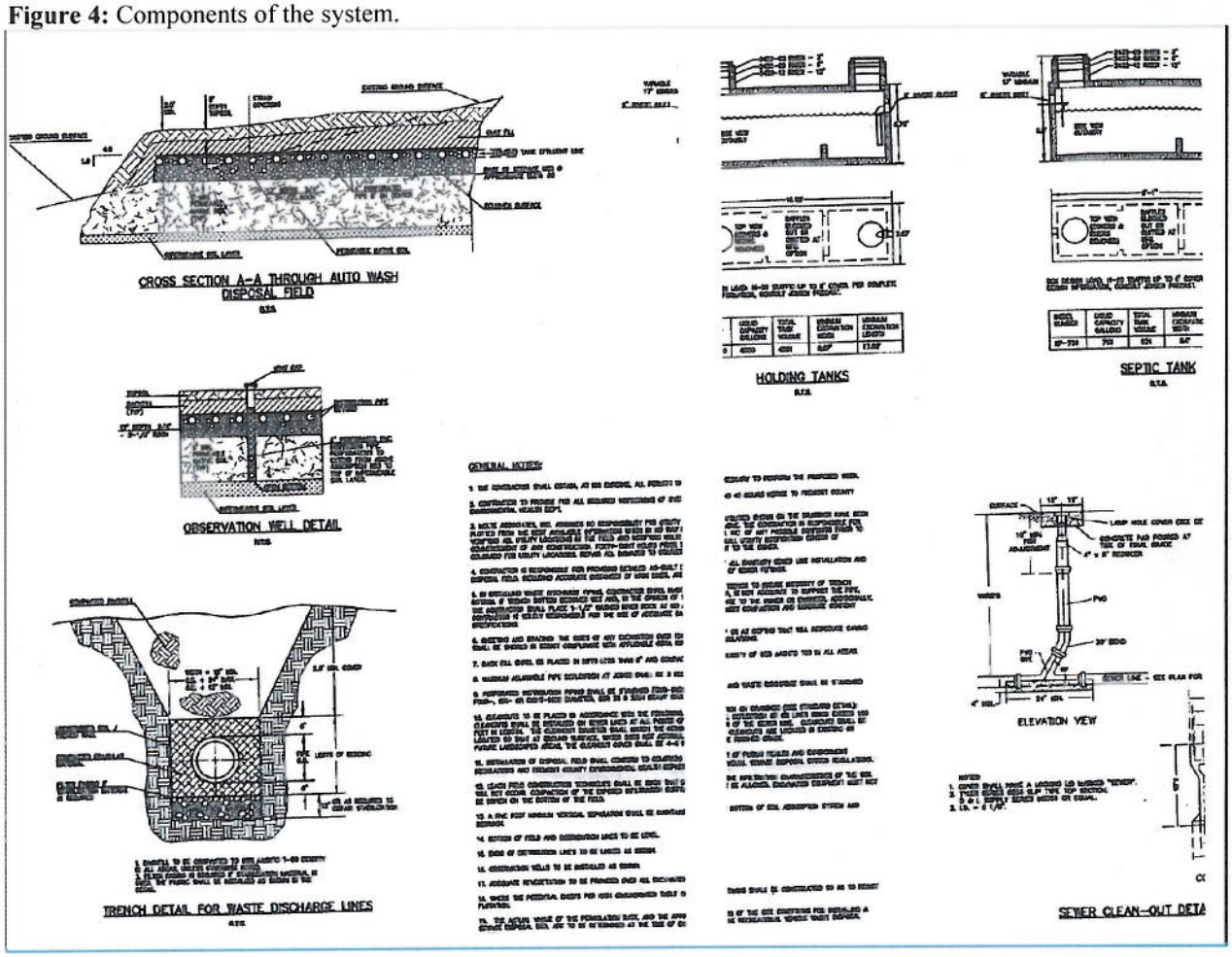

Figure 5: ¼-mile Area of Review.